

<b>NOTICE OF REVISION (NOR)</b>			1. DATE (YYMMDD) 94-08-29		Form Approved OMB No. 0704-0188			
THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.			Public reporting burden for this collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSED. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.		2. PROCURING ACTIVITY NO.			
					3. DODAAC			
4. ORIGINATOR		b. ADDRESS (Street, City, State, Zip Code) Defense Electronics Supply Center 1507 Wilmington Pike Dayton OH 45444		5. CAGE CODE 67268		6. NOR NO. 5962-R267-94		
a. TYPED NAME (First, Middle Initial, Last)				7. CAGE CODE 67268		8. DOCUMENT NO. <b>5962-88503</b>		
9. TITLE OF DOCUMENT MICROCIRCUIT, LINEAR, Dual MOSFET Drivers, MONOLITHIC SILICON			10. REVISION LETTER		11. ECP NO.  No ECP necessary			
			a. CURRENT E <span style="margin-left: 100px;">b. NEW F</span>					
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES All								
13. DESCRIPTION OF REVISION  Sheet 1: Revisions ltr column; add "F". Revisions description column; add "Changes in accordance with NOR 5962-R267-94". Revisions date column; add "94-08-29". Revision level block; change to "F". Rev status of sheets; for sheet 1, 2, and 7, add "F".  Sheet 2: Paragraph 1.2.2, Case outlines; Add outline Letter "H", Descriptive designator "GDFP1-F10 or CDFP2-F10", Revision Level Block; add "F"								
14. THIS SECTION FOR GOVERNMENT USE ONLY								
a. (X one)		(1) Existing document supplemented by the NOR may be used in manufacture. (2) Revised document must be received before manufacturer may incorporate this change. (3) Custodian of master document shall make above revision and furnish revised document.						
							X	
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT DESC-ELDS			c. TYPED NAME (First, Middle Initial, Last)  Michael A. Frye					
d. TITLE  Chief, Microelectronics Branch		e. SIGNATURE  Michael A. Frye			f. DATE SIGNED (YYMMDD) 94-08-29			
15a. ACTIVITY ACCOMPLISHING REVISION  DESC-ELDS		b. REVISION COMPLETED (Signature)  Sandra Rooney			c. DATE SIGNED (YYMMDD) 94-08-29			

<b>NOTICE OF REVISION (NOR)</b> (See MIL-STD-480 for instructions) This revision described below has been authorized for the document listed.		DATE (YYMMDD) 93-05-04	Form Approved OMB No. 0704-0188
Public reporting burden for this collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.			
1. ORIGINATOR NAME AND ADDRESS  Defense Electronics Supply Center Dayton, Ohio 45444-5277		2. CAGE CODE 67268	3. NOR NO. 5962-R154-93
		4. CAGE CODE 67268	5. DOCUMENT NO.  5962-88503
6. TITLE OF DOCUMENT  MICROCIRCUIT, LINEAR, DUAL MOSFET DRIVERS, MONOLITHIC SILICON		7. REVISION LETTER (Current)      D      (New)      E	
		8. ECP NO.  N/A	
9. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES  ALL			
10. DESCRIPTION OF REVISION  Sheet 1: Revisions ltr column; add "E" Revisions description column; add "Changes in accordance with NOR 5962-R154-93". Revisions date column; add "93-05-04". Rev status of sheets; For sheets 1 and 4 change from "D" to "E". For sheets 5 and 6 change from "C" to "E". Revision level block; Change from "D" to "E".  Sheet 4: For High output voltage ( $V_{OH}$ ) test and Low output voltage ( $V_{OL}$ ) test, in the conditions column; Add "1/". Revision level block; Change from "D" to "E".  Sheet 5: For Latch-up protection (I) test, in conditions column; Change from "1/" to "2/". For Rise time ( $t_r$ ) test, in conditions column; Change from "2/ 3/" to "3/ 4/". For Power supply current ( $I_{s1}$ ) test, device type 04, 05, 06, group A subgroup 1; Change limit from 1.5 mA max to 2.5 mA max. For Power supply current ( $I_{s2}$ ) test, device type 04, 05, 06, group A subgroup 1; Change limit from 0.15 mA max to 0.25 mA max. Revision level block; Change from "C" to "E".  Sheet 6: For Delay time ( $t_{D1}$ ) test, in conditions column; Change from "2/ 3/" to "3/ 4/". For footnotes at end of table I; Change from "1/" to "2/", from "2/" to "3/", from "3/" to "4/". add "1/ Guaranteed by design." Revision level block; Change from "C" to "E".			
11. THIS SECTION FOR GOVERNMENT USE ONLY			
a. CHECK ONE <input checked="" type="checkbox"/> EXISTING DOCUMENT SUPPLEMENTED BY THIS NOR MAY BE USED IN MANUFACTURE. <input type="checkbox"/> REVISED DOCUMENT MUST BE RECEIVED BEFORE MANUFACTURER MAY INCORPORATE THIS CHANGE. <input type="checkbox"/> CUSTODIAN OF MASTER DOCUMENT SHALL MAKE ABOVE REVISION FURNISH REVISED DOCUMENT TO:			
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT  DESC	SIGNATURE AND TITLE  Michael A. Frye BRANCH CHIEF		DATE (YYMMDD)  93-05-04
12. ACTIVITY ACCOMPLISHING REVISION  DESC	REVISION COMPLETED (Signature)  Dan Wonnell		DATE (YYMMDD)  93-05-04



REVISIONS																			
LTR	DESCRIPTION										DATE (YR-MO-DA)					APPROVED			
C	Redrawn with changes. Table I changes. Delete vendor CAGE 15818. Add vendor CAGE 1ES66 for device types 01, 02, and 03. Add vendor CAGE 60496 for device types 01 through 09.										92-10-22					M. A. Frye			
<b>THE ORIGINAL FIRST PAGE OF THIS DRAWING HAS BEEN REPLACED.</b>																			
REV																			
SHEET																			
REV																			
SHEET																			
REV STATUS OF SHEETS				REV		C	C	C	C	C	C	C	C	C	C	C			
				SHEET		1	2	3	4	5	6	7	8	9	10	11			
PMIC N/A				PREPARED BY Marcia B. Kelleher						DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444									
<b>STANDARD MICROCIRCUIT DRAWING</b>  THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE  AMSC N/A				CHECKED BY Ray Monnin															
				APPROVED BY D. A. DiCenzo															
				DRAWING APPROVAL DATE 88-07-25															
				REVISION LEVEL  C						SIZE <b>A</b>	CAGE CODE <b>67268</b>	<b>5962-88503</b>							
						SHEET 1 OF 11													

## 1. SCOPE

1.1 Scope. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".

1.2 Part or Identifying Number (PIN). The complete PIN shall be as shown in the following example:

<u>5962-88503</u>	<u>01</u>	<u>P</u>	<u>X</u>
Drawing number	Device type (see 1.2.1)	Case outline (see 1.2.2)	Lead finish (see 1.2.3)

1.2.1 Device type(s). The device type(s) shall identify the circuit function as follows:

<u>Device type</u>	<u>Generic number</u>	<u>Circuit function</u>	<u>Output current</u>
01	TSC426, MIC426	Dual power MOSFET driver	1.5 A dc
02	TSC427, MIC427	Dual power MOSFET driver	1.5 A dc
03	TSC428, MIC428	Dual power MOSFET driver	1.5 A dc
04	MIC4423	Dual high power MOSFET driver	3.0 A dc
05	MIC4424	Dual high power MOSFET driver	3.0 A dc
06	MIC4425	Dual high power MOSFET driver	3.0 A dc
07	MIC4426	Dual power MOSFET driver with latch proof output for inductive loads	1.5 A dc
08	MIC4427	Dual power MOSFET driver with latch proof outputs for inductive loads	1.5 A dc
09	MIC4428	Dual power MOSFET driver with latch proof outputs for inductive loads	1.5 A dc

1.2.2 Case outline(s). The case outline(s) shall be as designated in MIL-STD-1835 and as follows:

<u>Outline letter</u>	<u>Descriptive designator</u>	<u>Terminals</u>	<u>Package style</u>
P	GDIP1-T8 or CDIP2-T8	8	dual-in-line
2	CQCC1-N20	20	square leadless chip carrier

1.2.3 Lead finish. The lead finish shall be as specified in MIL-M-38510. Finish letter "X" shall not be marked on the microcircuit or its packaging. The "X" designation is for use in specifications when lead finishes A, B, and C are considered acceptable and interchangeable without preference.

## 1.3 Absolute maximum ratings.

Supply voltage ( $V_S$ ):	
Device types 01 through 03 -----	20 V dc
Device types 04 through 09 -----	22 V dc
Input voltage ( $V_{IN}$ ):	
Device types 01 through 03 -----	$V_S + 0.3$ V dc to GND - 0.3 V dc
Device types 04 through 09 -----	$V_S + 0.5$ V dc to GND - 5.0 V dc
Output current (per pin, capacitance load):	
Device types 01, 02, 03, 07, 08, and 09 -----	1.5 A dc
Device types 04, 05, and 06 -----	3.0 A dc
Peak supply current or GND current (per pin)---	3.0 A dc
Storage temperature range -----	-55°C to +125°C
Maximum power dissipation ( $P_D$ ):	
Case P -----	800 mW <sup>1/</sup>
Case 2 -----	1.8 W <sup>2/</sup>
Lead temperature (soldering, 10 seconds)-----	+300°C
Junction temperature ( $T_J$ ) -----	+150°C
Thermal resistance, junction-to-case ( $\Theta_{JC}$ ) -----	See MIL-STD-1835

<sup>1/</sup> Derate linearly at 6.4 mW/°C above  $T_A = +25^\circ\text{C}$ .  
<sup>2/</sup> Derate linearly at 14.4 mW/°C above  $T_A = +25^\circ\text{C}$ .

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**2**

#### 1.4 Recommended operating conditions.

Supply voltage range ----- 4.5 V dc  $\leq V_G \leq$  18 V dc  
Ambient operating temperature range ( $T_A$ )- ----- -55°C to +125°C

#### 2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and bulletin. Unless otherwise specified, the following specification, standards, and bulletin of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

##### SPECIFICATION

###### MILITARY

MIL-M-38510 - Microcircuits, General Specification for.

###### STANDARD

###### MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.  
MIL-STD-1835 - Microcircuit Case Outlines.

###### BULLETIN

###### MILITARY

MIL-BUL-103 - List of Standardized Military Drawings (SMD's).

(Copies of the specification, standards, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

#### 3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.2 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 1.

3.3 Electrical performance characteristics. Unless otherwise specified, the electrical performance characteristics are as specified in table I and shall apply over the full ambient operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

3.5 Marking. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked as listed in MIL-BUL-103 (see 6.6 herein).

3.6 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-EC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
**C**

SHEET  
**3**

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions -55°C ≤ T <sub>A</sub> ≤ +125°C 4.5 V ≤ V <sub>S</sub> ≤ 18 V unless otherwise specified		Device type	Group A subgroups	Limits		Unit
						Min	Max	
Logic "1" input voltage	V <sub>IH</sub>			All	1,2,3	2.4		V
Logic "0" input voltage	V <sub>IL</sub>			All	1,2,3		0.8	
Input voltage range	V <sub>IN</sub> (max)			01,02, 03	1,2,3	0	V <sub>S</sub>	
				04,05, 06,07 08,09	1,2,3	-5	V <sub>S</sub> + 0.5	
Input current	I <sub>IN</sub>	0 V ≤ V <sub>IN</sub> ≤ V <sub>S</sub>	01,02, 03	1		±1	μA	
				2, 3		±10		
		0 V ≤ V <sub>IN</sub> ≤ V <sub>S</sub>	04,05 06,07 08,09	1		±1		
				2, 3		±10		
		-5 V ≤ V <sub>IN</sub> ≤ 0	04,05 06,07 08,09	1		±1	mA	
				2, 3		±10		
High output voltage	V <sub>OH</sub>	R <sub>L</sub> = ∞		All	1,2,3	V <sub>S</sub> - 25 mV		V
Low output voltage	V <sub>OL</sub>	R <sub>L</sub> = ∞			1,2,3		25	mV
Output resistance	R <sub>O1</sub>	Apply V <sub>IN</sub> to force V <sub>OUT</sub> high I <sub>OUT</sub> = 10 mA	V <sub>S</sub> = 18 V	01,02 03	1,2,3		20	Ω
				04,05 06	1,2,3		8	
				07,08 09	1,2,3		15	
	R <sub>O2</sub>	Apply V <sub>IN</sub> to force V <sub>OUT</sub> low I <sub>OUT</sub> = 10 mA	V <sub>S</sub> = 18 V	01,02 03,07 08,09	1,2,3		15	
				04,05 06	1,2,3		8	

See footnotes at end of table.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**4**

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55° C ≤ T <sub>A</sub> ≤ +125° C 4.5 V ≤ V <sub>S</sub> ≤ 18 V unless otherwise specified	Device type	Group A subgroups	Limits		Unit
					Min	Max	
Latch-up protection	I	<u>1</u> /	04,05 06,07 08,09		-500	500	mA
Power supply current	I <sub>S1</sub>	V <sub>IN</sub> = 3.0 V (both inputs)	01,02, 03,07, 08,09	<u>1</u>		8.0	mA
				2,3		12	
			04,05, 06	<u>1</u>		1.5	
				2,3		4.0	
	I <sub>S2</sub>	V <sub>IN</sub> = 0.0 V, (both inputs)	01,02, 03,07, 08,09	<u>1</u>		0.4	
				2,3		0.6	
			04,05, 06	<u>1</u>		0.15	
				2,3		0.40	
Rise time	t <sub>R</sub>	<u>2</u> / <u>3</u> / V <sub>S</sub> = 18 V	01,02, 03	9,10,11		60	ns
			04,05, 06	<u>9</u>		35	
				10,11		60	
			07,08, 09	<u>9</u>		30	
				10,11		40	
Fall time	t <sub>F</sub>		01,02, 03,07, 08,09	9,10,11		40	
			04,05, 06	<u>9</u>		35	
				10,11		60	

See footnotes at end of table.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**5**

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55° C ≤ T <sub>A</sub> ≤ +125° C 4.5 V ≤ V <sub>S</sub> ≤ 18 V unless otherwise specified	Device type	Group A subgroups	Limits		Unit
					Min	Max	
Delay time	t <sub>D1</sub>	<u>2/ 3/</u> V <sub>S</sub> = 18 V	01,02, 03	9,10,11		60	ns
			04,05, 06	9		75	
				10,11		100	
			07,08 09	9		30	
				10,11		40	
	t <sub>D2</sub>		01,02, 03	9,10,11		120	
			04,05, 06	9		75	
				10,11		100	
			07,08, 09	9		50	
				10 11		60	

1/ Tested initially and after any design changes which may affect the performance of the device.

2/ Subgroups 10 and 11 are guaranteed if not tested to the limits as specified in table I herein.

3/ For device types 01, 04, and 07, see figure 2.

For device types 02, 05, and 08, see figure 3.

For device types 03, 06, and 09 inverting drivers, see figure 2.

For device types 03, 06, and 09 noninverting drivers, see figure 3.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**6**

Device types	01, 04, and 07		02, 05, and 08		03, 06, and 09	
Case outlines	P	2	P	2	P	2
Terminal number	Terminal symbol		Terminal symbol		Terminal symbol	
1	NC	NC	NC	NC	NC	NC
2	IN A	NC	IN A	NC	IN A	NC
3	GND	NC	GND	NC	GND	NC
4	IN B	IN A	IN B	IN A	IN B	IN A
5	OUT B	NC	OUT B	NC	OUT B	NC
6	V <sub>S</sub>	GND	V <sub>S</sub>	GND	V <sub>S</sub>	GND
7	OUT A	NC	OUT A	NC	OUT A	NC
8	NC	IN B	NC	IN B	NC	IN B
9	---	NC	---	NC	---	NC
10	---	NC	---	NC	---	NC
11	---	NC	---	NC	---	NC
12	---	NC	---	NC	---	NC
13	---	NC	---	NC	---	NC
14	---	OUT B	---	OUT B	---	OUT B
15	---	NC	---	NC	---	NC
16	---	V <sub>S</sub>	---	V <sub>S</sub>	---	V <sub>S</sub>
17	---	NC	---	NC	---	NC
18	---	OUT A	---	OUT A	---	OUT A
19	---	NC	---	NC	---	NC
20	---	NC	---	NC	---	NC

NC = No connection

FIGURE 1. Terminal connections.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**7**

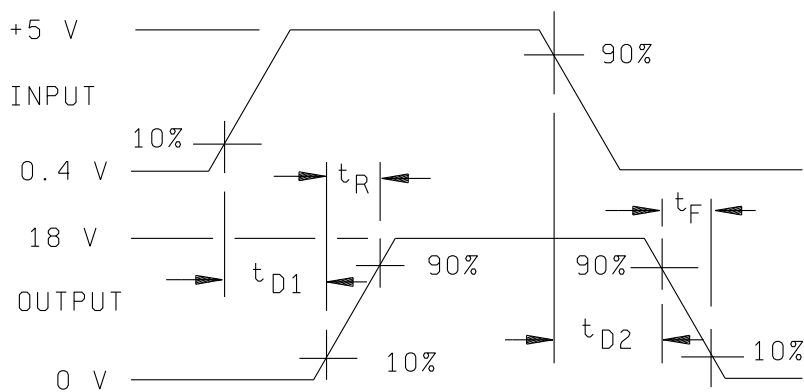
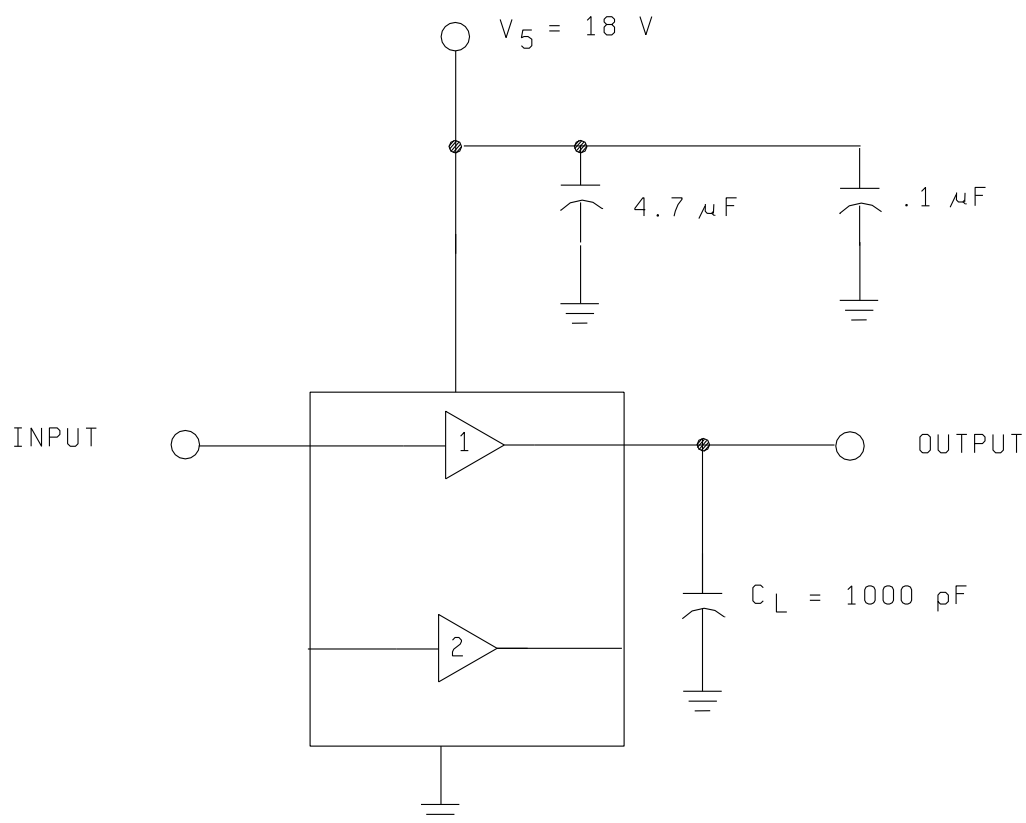


FIGURE 2. Inverting driver switching times.

STANDARDIZED  
 MILITARY DRAWING  
 DEFENSE ELECTRONICS SUPPLY CENTER  
 DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
 C

SHEET  
**8**

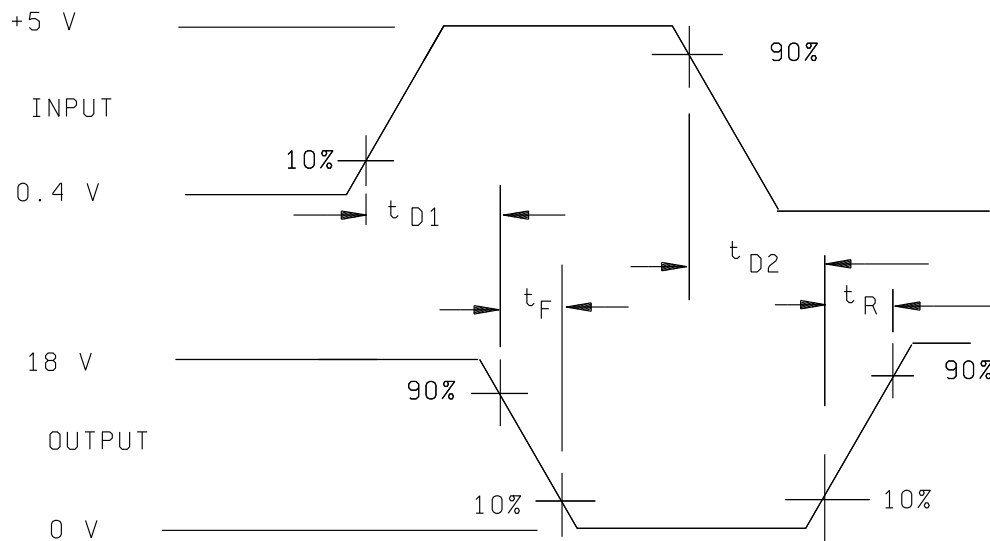
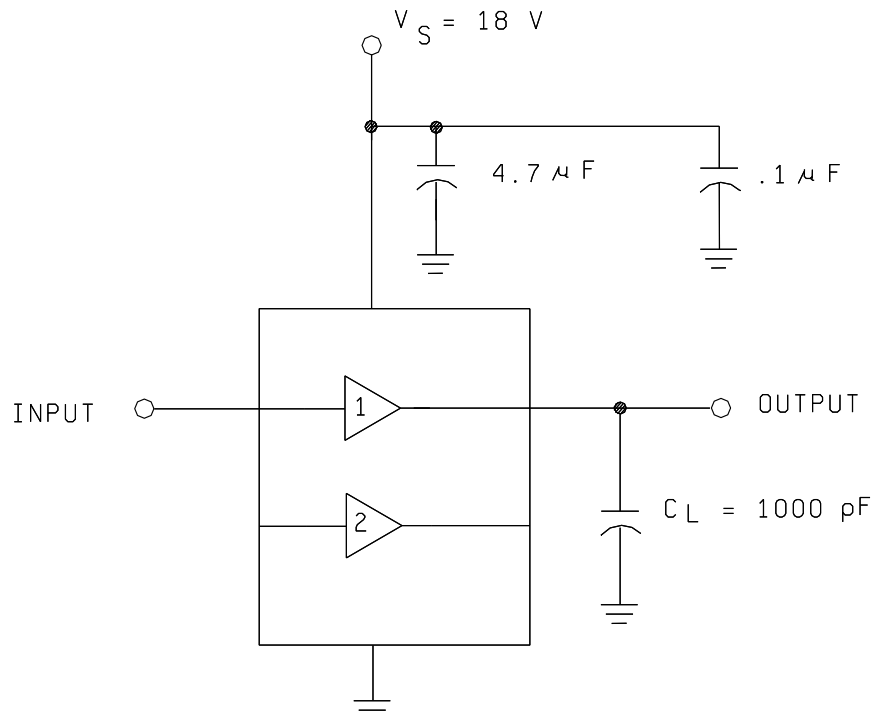


FIGURE 3. Noninverting driver switching time.

STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444

SIZE  
**A**

REVISION LEVEL  
C

SHEET  
**9**

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (per method 5005, table I)
Interim electrical parameters (method 5004)	---
Final electrical test parameters (method 5004)	1*, 2, 3
Group A test requirements (method 5005)	1, 2, 3, 9, 10**, 11**
Groups C and D end-point electrical parameters (method 5005)	1

\* PDA applies to subgroup 1.

\*\* Subgroups 10 and 11, if not tested, shall be guaranteed to the specified limits in table I.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change. Notification of change to DESC-EC shall be required in accordance with MIL-STD-883 (see 3.1 herein).

3.9 Verification and review. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore of the reviewer.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with section 4 of MIL-M-38510 to the extent specified in MIL-STD-883 (see 3.1 herein).

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.

(2)  $T_A = +125^\circ\text{C}$ , minimum.

b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 Quality conformance inspection. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

**STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444**

SIZE  
**A**

REVISION LEVEL  
**C**

SHEET  
**10**

#### 4.3.1 Group A inspection.

- a. Tests shall be as specified in table II herein.
- b. Subgroups 4, 5, 6, 7, and 8 in table I, method 5005 of MIL-STD-883 shall be omitted.
- c. O/V (latch-up) tests shall be measured only for initial qualification and after process or design changes which may affect the performance of the device. Latch-up tests shall be considered destructive. Test all applicable pins on three devices with zero failures.

#### 4.3.2 Groups C and D inspections.

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Steady-state life test conditions, method 1005 of MIL-STD-883:

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.

(2)  $T_A = +125^\circ\text{C}$ , minimum.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

### 5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

### 6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application. When a military specification exists and the product covered by this drawing has been qualified for listing on QPL-38510, the device specified herein will be inactivated and will not be used for new design. The QPL-38510 product shall be the preferred item for all applications.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-481 using DD Form 1693, Engineering Change Proposal (Short Form).

6.4 Record of users. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-EC, telephone (513) 296-6047.

6.5 Comments. Comments on this drawing should be directed to DESC-EC, Dayton, Ohio 45444, or telephone 513-296-5377.

6.6 Approved sources of supply. Approved sources of supply are listed in MIL-BUL-103. The vendors listed in MIL-BUL-103 vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-EC.

**STANDARDIZED  
MILITARY DRAWING  
DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OHIO 45444**

SIZE  
**A**

REVISION LEVEL  
**C**

SHEET  
**11**

# STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN

DATE: 92-10-22

Approved sources of supply for SMD 5962-88503 are listed below for immediate acquisition only and shall be added to MIL-BUL-103 during the next revision. MIL-BUL-103 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DESC-EC. This bulletin is superseded by the next dated revision of MIL-BUL-103.

Standardized military drawing PIN	Vendor CAGE number	Vendor similar PIN 1/
5962-8850301PX	1ES66 60496	TSC426MJA/883 MIC426AJBQ
5962-88503012X	1ES66	TSC426MNP/883
5962-8850302PX	1ES66 60496	TSC427MJA/883 MIC427AJBQ
5962-88503022X	1ES66	TSC427MNP/883
5962-8850303PX	1ES66 60496	TSC428MJA/883 MIC428AJBQ
5962-88503032X	1ES66	TSC428MNP/883
5962-8850304PX	60496	MIC4423AJBQ
5962-88503042X	2/	TSC4423MNP/883
5962-8850305PX	60496	MIC4424AJBQ
5962-88503052X	2/	TSC4424MNP/883
5962-8850306PX	60496	MIC4425AJBQ
5962-88503062X	2/	TSC4425MNP/883
5962-8850307PX	60496	MIC4426AJBQ
5962-88503072X	2/	TSC4426MNP/883
5962-8850308PX	60496	MIC4427AJBQ
5962-88503082X	2/	TSC4427MNP/883
5962-8850309PX	60496	MIC4428AJBQ
5962-88503092X	2/	TSC4428MNP/883

1/ Caution. Do not use this number for item acquisition.  
Items acquired to this number may not satisfy the performance requirements of this drawing.

2/ No longer available from an approved source of supply.

STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN - Continued.

<u>Vendor CAGE number</u>	<u>Vendor name and address</u>
1ES66	Maxim Integrated Products 120 San Gabriel Drive Sunnyvale, CA 94086
60496	Micrel, Incorporated 560 Oakmead Parkway Sunnyvale, CA 94086

The information contained herein is disseminated for convenience only and the Government assumes no liability whatsoever for any inaccuracies in this information bulletin